

Claims (German Utility Model No. DE 201 17 019 U1)

1. Membrane-covered, magnetic keypad with tactile feedback, characterized in that the keypad is configured as a sandwich construction with at least the following layers (from top to bottom) decorative membrane, platen, magnetic foil, spacing membrane and printed circuit board with contact points or switching membrane with platen, the platen, the magnetic foil and the spacing membrane having apertures of different sizes and key tops with a plunger being placed into the apertures in the platen and magnetic metal platelets which are attracted by the magnetic foil being placed in the apertures in the spacing membrane, and the plunger of the key top resting on the metal platelet and/or having a minimal distance from the metal platelet.
2. Membrane-covered, magnetic keypad with tactile feedback according to Claim 1, characterized in that the sandwich layers lie directly one on top of the other and are screwed to form an assembly.
3. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the sandwich layers are adhesively bonded to one another.
4. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims,

characterized in that the sandwich layers are at a distance from one another and screwed and/or adhesively bonded.

5. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the magnetic foil and/or the spacing membrane are not continuous but are fastened as panels in a step-shaped aperture in the platen.
6. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the plunger of the key top is arranged eccentrically in relation to the centre of the key top, and the bore in the magnetic foil is likewise arranged in such a way that it is in line with the plunger.
7. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the key tops have one or more plungers, it being possible for the plungers to be of the same length or different lengths.
8. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the magnetic foil and the metal platelet have in-line bores for LEDs.

9. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that at least one LED for each key area to be illuminated is arranged on the printed circuit board or the switching membrane in order to light up the key areas in a point- and/or area-covering manner and there is an opening for each LED in the key top and the LED protrudes into the key top.
10. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the key tops are of a one-part or multi-part configuration and are formed as a reflector, so that area illumination of the key area takes place.
11. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the LED protrudes through the plunger.
12. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that a number of LEDs are arranged for each key.
13. Membrane-covered, magnetic keypad with tactile feedback according to one of the preceding claims, characterized in that the metal platelets have at least 2 raised contact points for contact making.